

UNIT-V

EXPECTORANTS

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EXPECTORANTS

Expectorants are drugs which enhance the secretion of the sputum by the air passages so that it is easier to remove the phlegm through coughing. They are used in cough mixtures for this purpose they act either by increasing the bronchiole secretion or by making it less viscous (mucolytic agents) Drugs such as ipecacuanha in small doses act as stimulant expectorants. They irritate the lining of the stomach which reflexly stimulates the production of sputum by the glands in the bronchial mucous membrane.

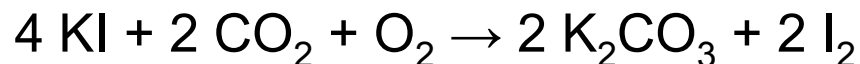
Potassium Iodide stimulates the gastric mucosa and reflexly increases the bronchiole secretion . Ammonium chloride acts like potassium iodide but is less potent Antimony potassium tetratrate also used as expectorant.

Potassium iodide is an inorganic compound with the chemical formula KI.

This white salt is the most commercially significant iodide compound, with approximately 37,000 tons produced in 1985.

It is less hygroscopic (absorbs water less readily) than sodium iodide, making it easier to work with.

Aged and impure samples are yellow because of aerial oxidation of the iodide to elemental iodine.



mg

[2]

thyroid storm

expectorant

U.S.P

AMMONIUM CHLORIDE

Preparation:

Ammonium chloride is made by reacting hydrochloric acid with ammonia the solution is evaporated to dryness.

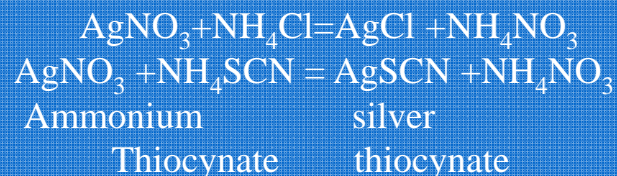


THE PRODUCT IS PURIFIED by recrystallisation or by sublimation .

Assay:

Formalaldehyde, previously neutralised to phenolphthalein , is added to the solution of the substance . it fixes the ammonia in ammonium chloride as hexamine . the liberated hydrochloric acid is titrated against 0.1 M sodium hydroxide , using phenolphthalein as indicator .

A modified volhard method was used in IP '66'. A solution of the substance acidified with nitric acid is shaken with a measured volume of n/10 silver nitrate , nitrobenzene being previously added .Nitrobenzene is added to coagulate the precipitate of silver chloride , so that it will not interfere with the titration later of excess of silver nitrate which is determined by titration with N/10 ammonium thiocyanate , using ferric ammonium sulphate as indicator.



The following is the reaction taking place at the end point when red ferric thiocyanate is formed (by reaction of ammonium thiocyanate with the indicator ammonium sulphate



Test of purity:

1. Arsenic
2. heavy metals
3. iron
4. sulphate
5. thiocyanate
6. sulphated ash
7. loss on drying
8. calcium

Storage:

Since ammonium chloride is slightly hygroscopic it is stored in well closed containers

Uses:

- >expectorant
- >diuretic and
- >systemic acidifiers